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A LIST OF THE ICHNEUMONIDÆ OF NORTH AMERICA,
with descriptions of new species.

BY E. T. CRESSON.

PART I.

The preparation, at this time, of a List of so extensive and difficult a family of insects as the Ichneumonidæ, cannot but be a very imperfect work; but as a beginning must be made sometime, there seems to be no good reason why it should not be made now. The extensive material contained in the Collection of the American Entomological Society, together with the fine Collection of Mr. Edward Norton, kindly loaned by that gentleman for the purposes of this List, warrant this attempt to catalogue the species, and shows that in the number of species, this Family is second to none, if not the largest, in any Order of insects. The great variation in the coloring of many species, especially of the genus *Ichneumon*, render the separation of the species often difficult and uncertain; and there is no doubt whatever that some of the species described here will eventually prove to be nothing but varieties. Many species are known of one sex only; in some cases only males, in others only females, and occasionally one or the other of them in plenty; this is owing to the dissimilarity between the sexes, especially observable in the genera *Ichneumon* and *Cryptus*.

The classification of the genera adopted here, is much the same as that given by Prof. Gravenhorst, in his *Ichneumonologia Europæa*.

At the end of each Part, the descriptions of species supposed to be new, and notes on those already described, will be given.

To save space, references to original descriptions of the species will be omitted in this List. References to all the species described up to the year 1862, have already been given in the *Proceedings Ent. Soc. Phil.*, Vol. I, p. 205—211; those described since, will be found in that and the subsequent volumes of the same work. After the name of the species and its author, will follow the sex in which it is known or described, and then the habitat. For the Eastern, Middle, Southern and Western States, the abbreviations E. S., M. S., S. S., and W. S., are used when certain species have been found in many States. The abbreviations of the various States will be understood without further explanation. A — after the species indicates that it is unknown to me; a = denotes that the species, although known to me, is not represented in the Collection of this Society.

Family ICHNEUMONIDÆ.

Sub-fam. ICHNEUMONIDES.

ICHNEUMON, Linn.

maurus, Cresson, ♀. W. Va.
Orpheus, Cresson, ♀. Ct., Pa.
viola, Cresson, ♀. Pa., W. Va.
galenus, Cresson, n. sp., ♂. W. Va., Ill.
torvinus, Cresson, n. sp., ♂. Ill.
malacus, Say, ♀. Can., E. M. & W. S.
afer, Cresson, ♀. Ct., Ills.
saucius, Cresson, ♀. Pa., Ills.
cincticornis, Cress., ♂ ♀. E. M. & W. S.
excultus, Cresson, n. sp., ♀. N. J.
ater, Cresson, ♀. N. Y.
apertus, Cresson, n. sp., ♀. E. M. & W. S.
acerbus, Cresson, n. sp., ♂. Mass., Ills.
flavicornis, Cress., ♂. Can., E. M. & W. S.
macilentus, Cresson, ♂. Col. Ter.
pedalis, Cresson, ♂ ♀. Col. Ter.
Ormenus, Cresson, ♀. Pa.
semilævus, Cresson, ♀. Col. Ter.
caliginosus, Cress., ♀. Ct., W. Va., Col.
nigratorius, Fabr., Brullé.— Carolina.
subcoryaneus, Cresson, ♀. E. M. & W. S.
vittifrons, Cresson, ♂. E. & M. S.
histricus, Cresson, n. sp., ♀. W. Va.
pullatus, Cresson, ♂. E. M. & W. S.
ornatipes, Cresson, n. sp., ♂. W. Va.
jejunus, Cresson, ♂. N. Y., Ills.
Ischnus jej., Cresson.
cordatus, Cresson, ♂. Col. Ter.
expunctus, Cresson, ♂. Col. Ter.
obliteratus, Cress. (nec Wesm.)
sagus, Cress., n. sp. ♂ ♀. Mass., N. Y., Ill.
havus, Say, ♀. (♂ —). M. & W. S.
audax, Cresson, ♂. Col. Ter.
Bronteus, Cresson, ♂. Pa.
ultus, Cresson, n. sp., ♂. Ct., W. Va.
rogalis, Cresson, n. sp., ♂. Ct., W. Va.
sublatus, Cresson, ♂. E. M. & W. S.
Ischnus subl., Cresson.
Isch. proximus, Cress., ♂ var.
mellipes, Cresson, n. sp., ♂. Can., Me.
luctus, Cresson, ♂. Col. Ter.
tenebrosus, Cress. (nec Wesm.)
puerilis, Cresson, n. sp., ♂. Can.
unifasciatus, Say, ♂ ♀.
niger, Brullé. Can., E. M. & W. S.
otiosus, Say, ♀. E. M. & W. S.

agnitus, Cresson, ♀. Del., Ills.
Azotus, Cresson, ♂. Del., W. Va.
infidelis, Cresson, n. sp., ♂. = Ct.
improvisus, Cresson, n. sp., ♂. = N. J.
scelestus, Cresson, ♀. Ills.
brevicinctor, Say, ♂ ♀. Can., E. M. & W. S.
extrematatis, Cress., ♂ ♀. E. M. & W. S.
sævus, Cresson, n. sp., ♀. Ills.
helvipes, Cress., n. sp., ♂ ♀. E. & W. S.
breviventris, Cresson, ♂. = Cuba.
apicalis, Cresson, ♂. Col. Ter.
ventralis, Cresson, ♂. Col. Ter.
centrator, Say, ♀. E. M. & W. S.
montanus, Cresson, ♂ ♀. W. Va., Col.
clarus, Cresson, n. sp., ♀. Mass.
pulcher, Brullé, ♀. = N. Y., La.
cæruleus, Cresson, ♂ ♀. E. M. & W. S.
albomarginatus, Cress., n. sp. ♂. = Miss.
consignatus, Cresson, n. sp. ♂. W. Va.
Blandii, Cresson, ♂. Pa.
Ischnus Blandii, Cresson.
jucundus, Brullé, ♀. Can., E. M. & W. S.
robustus, Cresson, n. sp., ♀. Can.
subdolos, Cresson, n. sp., ♀. E. & M. S.
Grotei, Cresson, ♂. Ills., Col. Ter.
creperus, Cresson, n. sp. ♂. Can., E., M. S.
variegatus, Cresson, ♂. Col. Ter.
delicatus, Cresson, ♂. Col. Ter.
comptus, Say, ♂. E. M. & W. S.
atrifrons, Cresson, ♀. E. M. & W. S.
flavovarius, Cresson, ♂, Cuba.
zebratus, Cresson, n. sp., ♀. Ills.
flavizonatus, Cresson, ♂. M. & W. S.
multor, Harris, ♂. Can., Mass.
zelotypus, Cresson, n. sp. ♂. Ct., W. V.
calitergus, Harris, ♀. = Me.
magniceps, Cresson, n. sp. ♂ ♀. = Cuba.
paratus, Say, ♂. E. M. & W. S.
Ich. parata, Say, (1828).
Ischnus par., Cresson.
vinnulus, Cresson, ♂. Pa., W. Va.
Ischnus vin., Cresson.
contiguus, Cresson, ♂. Can., E. & M. S.
Ischnus contig., Cresson.
munificus, Cresson, ♂. E. M. & W. S.
nobilis, Cresson, (nec Wesm.)

- lætus*, Brullé, ♂. Can., E. M. & W. S.
parata, Say, (1835), ♂.
- mimicus*, Cresson, n. sp., ♂. Mass., Ct.
parvus, Cresson, ♂. E. M. & W. S.
infucatus, Cresson, ♂. Col. Ter.
inconstans, Cresson, ♂. Col. Ter.
bipunctatus, Cresson, ♂. Col. Ter.
festus, Cresson, ♂ var.
comes, Cresson, ♂. Can., E. M. & W. S.
pictifrons, Cresson, ♂. Col. Ter.
Wilsoni, Cresson, ♂. N. J., Del., W. Va.
Ischnus Wilsoni, Cresson.
- bizonatus*, Cresson, ♀. Col. Ter.
feralis, Cresson, n. sp., ♀. Can., Mass.
Dakota, Cresson, n. sp., ♂. Dak. Ter.
grandis, Brullé, ♂ ♀. E. M. & W. S.
regnatrix, Cresson, ♀ var.
ambiguus, Cresson, ♂ var.
rufiventris, Brullé, ♂ ♀. Can., E. M. &
incertus, Cresson, ♀ var. W. S.
semicoccineus, Cresson, ♂.
- californicus*, Cresson, ♂ Cal.
inurbanus, Cresson, n. sp. ♀. W. Va.
ferrugator, Kirby. — Arc. Am.
insolens, Cresson, n. sp. ♂ ♀. S. S.
meridionalis, Cresson, ♀. Cuba.
detritus, Brullé, ♀. E. & M. S.
Syphax, Cresson, ♀.
- semicæruleus*, Cresson, n. sp. ♀. W. Va.
virginicus, Cresson, ♀. W. Va.
devinctus, Say, ♀. E. M. & W. S.
tibialis, Brullé, ♀.
- montivagus*, Cresson, ♂. Col. Ter.
vinctus, Say, ♀. — Ind.
vinulentus, Cresson, ♂. Col. Ter.
nubivagus, Cresson, ♂. Me., Pa., Col.
consimilis, Cresson, (nec Wesm.)
justus, Cresson, ♂ var.
- allapsus*, Cresson, ♂. Col. Ter.
animosus, Cresson, ♂. Col. Ter.
rubellus, Cresson, ♂ var.
- succinctus*, Brullé, ♂. E. M. & W. S.
discus, Cresson, ♂. Col. Ter.
instabilis, Cresson, n. sp. ♂ ♀. E. & M. S.
magnus, Cresson, ♂. Col. Ter.
rufizonatus, Cresson, ♀. Ct., N. J.
electus, Cresson, n. sp. ♂. — Ct.
volesus, Cresson, n. sp. ♀. Mass.
Nortonii, Cresson, n. sp. ♀. — Ct.
terminalis, Cresson, ♀. Del.
finitimus, Cresson, n. sp. ♂. Ct., Pa., Ills.
- milvus*, Harris, ♂. E. S.
involutus, Cresson, ♀. Col. Ter.
hariolus, Cresson, n. sp. ♀. Mass.
hebrus, Cresson, n. sp. ♂ ♀. Ct., Ills.
Hebe, Cresson, n. sp. ♂ ♀. Ct., Ills.
fungor, Norton, ♂. E. M. & W. S.
vultus, Cresson, ♂. Col. Ter.
limbifrons, Cresson, ♂. Col. Ter.
exiguus, Cresson, ♀. Col. Ter.
hospitus, Cresson, n. sp. ♀. Can.
citrifrons, Cresson, n. sp. ♂. Ct., Pa.
? trogiformis, Cresson, ♂ ♀. M. & S. S.
dorsalis, Cresson, ♀. Col. Ter.
Lewisii, Cresson, ♀. E. M. & W. S.
sandix, Cresson, ♀. N. Y.
velox, Cresson, ♀. Ct., Pa., Ills.
maius, Cresson, n. sp. ♀. Mass.
fuscifrons, Cresson, ♀. Ills.
disparilis, Cresson, n. sp. ♀. — Ct.
cubensis, Cresson, ♂. — Cuba.
Lariæ, Curtis, ♀. — Arc. Am.
subrufus, Cresson, ♀. Can., E. M. & W. S.
funestus, Cresson, ♀. Can., E. M. & W. S.
canadensis, Cresson, n. sp. ♀. Can., N. Y.
ventralis, Cresson, n. sp. ♀. — H. B. T.
signatipes, Cresson, n. sp. ♀. Ct., Pa.
seminiger, Cresson, ♀. Can., E. M. & W. S.
vicinus, Cresson, ♀. Ills.
suturalis, Say, ♀. Can., E. M. & W. S.
propinguis, Cresson, ♀ var.
? longulus, Cresson, ♂.
- subfulvus*, Cresson, ♀. Col. Ter.
subfuscus, Cresson, ♀. Col. Ter.
volens, Cresson, ♂. Can., E. M. & W. S.
Ischnus vol., Cresson.
- anceps*, Cresson, n. sp., ♂ ♀. Ct., Del.
? pennator, Fabr. — Ga.
duplicatus, Say, ♂. E. M. & W. S.
W-album, Cresson, ♂ ♀. E. & M. S.
Ischnus W-album, Cresson.
- lascivus*, Cresson, n. sp., ♂. Ills.
honestus, Cresson, n. sp., ♂. W. Va.
uxorius, Cresson, n. sp., ♀. — Cuba.
serricornis, Cresson, ♂. Cuba.
albipectus, Brullé, ♂. Cuba.
burrus, Cresson, ♀. Cuba.
pectoralis, Say. — Ind.
scitulus, Cresson, ♂. Ct., W. Va.
Ischnus scit., Cresson.
- iridescens*, Cresson, ♂. Del.
Ischnus irid., Cresson.

<i>facetus</i> , Cresson, n. sp., ♂.	W. Va.	<i>annulipes</i> , Cresson, ♀.	E. M. & W. S.
<i>utilis</i> , Cresson, n. sp., ♂.	Mass., Ct.	<i>pusillus</i> , Cresson, ♀.	Del.
? <i>hilaris</i> , Say.—	Ind.	<i>tumidifrons</i> , Cresson, n. sp., ♀.	Ills.
<i>lævigatus</i> , Cresson, ♀.	Col. Ter.	<i>quadriceps</i> , Cresson, n. sp. ♂ ♀.	Can., Ct.
<i>rubicundus</i> , Cresson, ♂ ♀.	Ills.	<i>helvus</i> , Cresson, n. sp., ♀.	E. M. & W. S.
<i>soror</i> , Cresson, ♀.	Del.	<i>helvolus</i> , Cresson, n. sp., ♀.	Ct., Pa.
<i>residuus</i> , Say, ♀.	Mass., Ct.	<i>vincibilis</i> , Cresson, n. sp., ♀.	Ills.

NOTES AND DESCRIPTIONS.

***Ichneumon viola*.**—Mr. Walsh (*Proc.*, &c., v, p. 210) considers *maurus* and *Orpheus* identical with this species. They are certainly closely allied to each other, but their general appearance and style of sculpture are so different, that it would be quite as proper to consider these three species identical with *malacicus* Say, as to consider *maurus* and *Orpheus* identical with *viola*. *Maurus* is an opaque black species, with the head narrowed beneath, the wings dark purple, the metathorax coarsely sculptured and opaque, the elevated lines sharp, and the central area subquadrate. *Orpheus* has the body shining black, with a bluish tinge, especially on the abdomen, the head broad and not narrowed beneath, by reason of the more convex cheeks, the wings much clearer than in *maurus* or *viola*, the metathorax not roughly sculptured, but shining, with the elevated lines flattened and polished, and the central area quadrate. *Viola* is more shining than *Orpheus* having also a bluish tinge on the abdomen, the wings fuscous or black, with a very brilliant purple or violet reflection, the metathorax similarly sculptured to that of *Orpheus*, except that the central area is always (in nine specimens) small and somewhat conical, and often indistinctly defined. The length of this species varies from $5\frac{1}{2}$ to $8\frac{1}{2}$ lines.

***I. galenus*.**—♂. Long, slender, black, opaque; antennæ long, slender, with a broad yellow annulus about the middle; mesothorax very densely and finely punctured, the punctures indistinct; scutellum convex and densely punctured, as well as the metathorax, which has the elevated lines sharply defined, and the central area rather large and quadrate; wings uniformly fusco-hyaline, with a purplish gloss; tips of the anterior femora and their tibiæ within, palish; abdomen long, slender, opaque, except towards the tip, which is a little shining; basal segment bilineated, as usual, the basal foveæ of the second segment deep, transverse and somewhat oblique. Length $8\frac{1}{2}$ lines.

Hab.—West Virginia, (Ridings); Illinois, (Dr. Lewis). Three ♂ specimens. This and *torvinus* may be the males of some species already described, but at present it is impossible to determine to what species they belong.

***I. torvinus*.**—♂. Long, slender, deep black, shining; head large, not narrowed beneath; anterior orbits—narrow above and broad beneath the antennæ—a short line on the lower posterior orbits and a spot on each side of the clypeus, obscure whitish; antennæ long, rather slender, with a narrow white annulus about the middle; mesothorax densely and finely, but distinctly punctured; a spot on the tegulæ anteriorly and another in front of each anterior wing, obscure whitish; scutellum convex, polished, sparsely punctured; metathorax confluent punctured, shining, the elevated lines well defined and the central

area rather large, subquadrate; wings uniformly pale fusco-hyaline, with a strong purple reflection; tibiæ with a whitish annulus at base, nearly obsolete on the posterior pair; abdomen long, basal segment bilineated and aciculate, the basal foveæ of the second segment deep, neither transverse or oblique. Length 9 lines.

Hab.—Illinois, (Dr. Lewis). One ♂ specimen.

I. saucius.—I cannot agree with Mr. Walsh (l. c.) in considering *ater* identical with this species. The two agree well in the antennæ and in the sculpture of the metathorax; but the head of *saucius* is unusually large in proportion to the size of the insect, the wings dark, the abdomen long, narrow, convex above, smooth and shining; while *ater* has a smaller head, the wings clear, the abdomen shorter, subdepressed and less shining, by reason of the surface being more closely punctured. The general appearance of the two species is totally different, and they are undoubtedly distinct.

I. excultus.—♀. Black, shining, abdomen with a rather strong blue reflection; head slightly narrowed beneath, immaculate; antennæ rather stout, as long as head and thorax, black, with a broad whitish annulus about the middle, third joint longer than fourth, which with the fifth is long and subequal; thorax shining, very finely punctured, immaculate; scutellum polished, impunctured, slightly convex; metathorax rugulose, the elevated lines tolerably well defined, the central area quadrate; wings uniformly pale fuliginous, nervures and stigma black; legs black, anterior pair pale in front; abdomen elongate, immaculate, with a more or less obvious blue tinge; first segment longitudinally aciculate, second densely punctured, aciculate on the basal middle, third delicately punctured, the punctures becoming obsolete at tip, remaining segments smooth, polished and impunctured. Length $6\frac{1}{2}$ —7 lines.

Hab.—New Jersey, (Cresson). Three ♀ specimens.

I. apertus.—♀. Black; head and thorax thinly clothed with a very short, fine, pale pubescence; head large, broad, not narrowed beneath, deeply punctured, upper half of anterior and posterior orbits narrowly white; antennæ moderately slender, longer than head and thorax, black, with a more or less broad white annulus a little beyond the middle; thorax shining, a spot before the anterior wing and another beneath, white, these are sometimes obsolete or wanting; scutellum flat, sometimes with a white spot at tip; metathorax densely punctured, disk nearly smooth and shining, central area subquadrate, not well defined; wings vary from hyaline to dusky; legs black, the anterior pair pale in front; abdomen elongate, often tinged with blue; first segment gradually dilated at tip, which is convex and closely punctured; second and third segments closely punctured, apical segments smooth, shining and almost without punctures. Length $5\frac{1}{2}$ —7 lines.

Hab.—Connecticut, New York, Illinois. Twelve ♀ specimens. Closely allied to *excultus* and *ater*. From the former it is at once distinguished by the third to sixth joints of the antennæ being oblong and subequal, and by the basal segment of the abdomen being punctured and not aciculate; and from *ater* by the much longer antennæ and its longer basal joints.

I. acerbus.—♂. Slender, black, shining, closely and finely punctured; head, thorax and legs clothed with a very short, yellowish-sericeous pile; head small, narrowed beneath, eyes large; a more or less distinct yellowish line on each side of the face, wanting in two specimens; antennæ long, slender, subserrate,

black, with a rather narrow white or yellowish annulus about the middle; metathorax with the elevated lines sharply defined, the central area quadrate, rather large; wings hyaline, subiridescent, nervures brown; legs black or brown-black, strongly sericeous at base beneath, tips of the four anterior femora, and their tibiæ within, luteous, their tarsi brown; abdomen long, narrow, shining, basal segment very slender, not rough at tip. Length 4—5½ lines.

Hab.—Massachusetts, (Ridings); Illinois, (Dr. Lewis). Five ♂ specimens. This resembles *ater*, and may be the ♂ of it.

I. histicus.—♂. Large, dull black; face white, with a broad black stripe down the middle; narrow anterior orbits, dot at summit of each eye, spot on mandibles and palpi, except base, white; antennæ more than half the length of the body, very slender at tips, black, an imperfect yellowish annulus about the middle, the basal joint white beneath; thorax opaque, densely punctured; a sutural line in front of wing and a short line beneath, white; scutellum flat, white; metathorax rugose, the elevated lines prominent, the central area transverse; wings uniformly dark fuscous, with a strong purple reflection, nervures and stigma black, areolet subtriangular; legs black, the two anterior pair pale in front; abdomen elongate, depressed, opaque, very densely and finely punctured, less distinctly so at tip, first segment bicarinate, minutely aciculate; basal foveæ of second segment very deep. Length 9 lines.

Hab.—West Virginia, (Ridings). Allied to *vittifrons*, but quite distinct.

I. pullatus may be the ♂ of *subcaneus*.

I. ornatipes.—♂. Shape and size of *pullatus*; black; orbits, face, clypeus, mandibles and palpi yellowish-white; head not narrowed beneath; antennæ black, longer than head and thorax, basal joint whitish beneath; mesothorax shining; tegulæ, broad sutural line before and short line beneath each anterior wing, scutellum and post-scutellum yellowish-white; metathorax confluent punctured, the elevated lines well defined, the central area sublunate; wings hyaline, nervures black; four anterior coxæ white beneath, posterior pair black, with a large white wedge-shaped spot beneath; four anterior legs white, their trochanters, femora and tibiæ black behind; posterior legs black, the femora with a broad white stripe beneath at base, their tibiæ with a white stripe beneath; tips of anterior tarsi black; abdomen elongate, convex, dull black, first segment shining, feebly sculptured. Length 6½ lines.

Hab.—West Virginia, (Ridings). Allied to *pullatus*, but easily separated by the entirely whitish face and differently ornamented legs.

I. sagus.—♀. Robust, deep black, shining; face broad, a narrow white line on the upper half of the posterior orbits; antennæ robust, with a rather broad white or yellowish annulus about the middle; mesothorax and scutellum polished, with scattered deep punctures, scutellum with a white spot at tip, sometimes a white dot before the wings; metathorax confluent punctured, the central area subrotund; wings hyaline; legs robust, black, the tibiæ with a broad exterior white stripe, tarsi brownish; abdomen short, robust, oblong-ovate, shining; first segment slender at base, dilated at tip, which is sparsely punctured, but not rough; second segment densely punctured, almost smooth at tip; remaining segments impunctured, except the base of the third segment, which is sometimes sparsely punctured. Length 6 lines.

♂. Long, slender, deep black, sometimes shining; face and clypeus white or yellowish-white, a narrow white line on the upper half of the posterior orbits;

antennæ long, slender, brownish beneath, with a narrow yellowish annulus beyond the middle, sometimes subobsolete: a short, narrow line before each anterior wing and another beneath, the scutellum, and sometimes a line on the post-scutellum, white; metathorax subrugose, with the elevated lines sharply defined, the central area transversely subrotund; wings hyaline, slightly tinged with fuscous at tip; tips of the four anterior femora, their tibiæ more or less, and the basal half of the posterior tibiæ white or whitish; abdomen slender, subcylindric, shining at tip. Length 6—7 lines.

Hab.—Mass., Conn., N. Y., D. C., Ill. Six ♀, three ♂ specimens. The ♀ has much the form of *subcyaneus*, but is readily distinguished from that species by the striped tibiæ. The ♂ specimens may not belong to this species, although they closely resemble the ♀ in the markings.

I. ultus.—♂. Black, opaque; face, clypeus and palpi, in part, yellowish-white; antennæ long, slender, subserrate, the scape whitish beneath; tegulæ, a sutural line in front, and a short line beneath each anterior wing, scutellum and post-scutellum, white or yellowish white; metathorax confluent punctured, the elevated lines sharply defined, the central area moderate, quadrate, its posterior margin, and sometimes a spot on anterior margin, whitish; wings hyaline, sometimes with a slight yellowish tinge; all the coxæ white, except the posterior pair at base beneath; tips of the four anterior femora and a stripe within, their tibiæ and tarsi entirely, and the posterior tibiæ, except the apical third, also white; posterior femora black, their tarsi black in one specimen and white in another; abdomen densely punctured, the first segment suddenly dilated at tip. Length $7\frac{1}{2}$ lines.

Hab.—Connecticut, (Coll. Mr. Norton); West Virginia, (Ridings). One ♂ specimen. The almost entirely white coxæ will distinguish this species from *audax* and *Bronteus*, to which it is closely allied.

I. rogalis.—♂. Black, opaque; antennæ long, moderately slender, subserrate; sides of the face, a transverse lunate mark on the clypeus, (sometimes the face and clypeus entirely,) spot on scape of antennæ beneath, tegulæ, a line before and a short one beneath each anterior wing, scutellum and post-scutellum, a spot on the four anterior coxæ beneath, a line on the posterior pair exteriorly, as well as its tip beneath, tips of the four anterior femora or a line within, the four anterior tibiæ and tarsi, and the basal half of the posterior tibiæ, all white or yellowish-white; sometimes the two or three basal joints of the posterior tarsi are yellowish, and a single specimen has the posterior tibiæ black, except a short exterior white line; wings subhyaline, more or less tinged with fuscous; metathorax with sharply defined elevated lines and a rather large, quadrate central area; abdomen elongate, depressed; first segment rather broadly dilated at tip, and strongly bicarinate. Length 6— $8\frac{1}{2}$ lines.

Hab.—Connecticut, New York, (Coll. Mr. Norton); West Virginia, (Ridings). Fifteen ♂ specimens. Easily distinguished from its allies by the markings of the face.

I. mellipes.—♂. Long, slender, dull black, the abdomen with a faint purplish tinge; antennæ long, black, the basal joint yellow beneath; narrow anterior orbits, face, clypeus, mandibles and palpi, and sometimes a spot on the cheeks beneath the eyes, bright yellow; thorax shining; tegulæ, a short sutural line before each anterior wing, a short, narrow line beneath, and the scutellum, bright yellow; metathorax subrugose, slightly shining, the elevated lines

sharply defined, the central area small, subrotund; wings yellowish-hyaline, nervures and stigma testaceous; legs bright honey-yellow, approaching orange, the four anterior coxæ whitish, the posterior pair black, more or less yellow at tips; tips of posterior tibiæ, and sometimes the apex of their tarsi, dusky; abdomen long and narrow, opaque, except at tip which is smoother and slightly shining; basal segment slender and but slightly dilated at tip, which is bicarinate and finely striated longitudinally. Length $7\frac{1}{2}$ lines.

Hab.—Canada, (Saunders); Maine, (Harris' Collection). Two ♂ specimens.

I. puerilis.—♂. Very slender, black, shining; face, clypeus, mandibles and palpi, white; a dusky spot beneath antennæ and a larger one on middle of clypeus; antennæ very long, slender, filiform, brown above, fulvous beneath, the basal joint white beneath; tegulæ and a spot on scutellum, fulvous; the post-scutellum has two large, deep foveæ at base; metathorax shining, the elevated lines well defined, the central area moderate, quadrate; wings hyaline, iridescent, nervures and stigma brown, areolet triangular; legs, including all the coxæ, bright honey-yellow, tips of posterior femora, their tibiæ and tarsi blackish; abdomen slender, the apical half polished. Length 5 lines.

Hab.—Canada, (Billings). One ♂ specimen. This is a very slender species, with very long, filiform antennæ. It may not belong to this genus.

I. infidelis.—♂. Black; face, orbits, spot on each side of clypeus, and palpi, whitish; antennæ long, slender, subserrate, entirely black; tegulæ, broad sutural line before, and a short line beneath each anterior wing, most of scutellum, post-scutellum, and two spots on each side of the pleura, the anterior one the larger and transverse, all white; scutellum slightly convex; metathorax confluent punctured, the elevated lines sharply defined, the central area large, lunate, and on each extreme side there is a very obscure pale mark; tegulæ dull whitish; wings hyaline, nervures and stigma black; legs black, the four anterior coxæ more or less whitish beneath, the posterior with a white spot behind; tips of the four anterior femora and within, their tibiæ and most of tarsi, extreme tips of posterior femora, the exterior edge of their tibiæ and most of their tarsi, whitish; abdomen robust, opaque at base, shining at tip; apex of first segment white, apical margin of second segment stained with dull testaceous. Length 7 lines.

Hab.—Connecticut, (Coll. Mr. Norton). One ♂ specimen.

I. improvisus.—♂. Black, subopaque; face and clypeus white, both with a broad black stripe down the middle; antennæ long, slender, black, with a broad white annulus a little before the middle, the basal joint beneath is spotted with white; spot on tegulæ, another in front, a short line beneath, and the scutellum, also white; central area of metathorax subquadrate, shining; wings subhyaline; legs black, tips of anterior femora, their tibiæ and tarsi, basal half of intermediate tibiæ and of their tarsi, and a narrow band near the base of posterior tibiæ, white; abdomen elongate, narrow, opaque shining at tip, apical margin of sixth and a large spot on the seventh segment, white. Length $6\frac{1}{2}$ lines.

Hab.—New Jersey, (Coll. Mr. E. Norton). One ♂ specimen.

I. sævus.—♀. Robust, deep black, shining, closely and distinctly punctured antennæ with a broad yellowish annulus; head and thorax immaculate, except the posterior margin of the scutellum, which is obscurely palish; metathorax shining, sparsely punctured, central area large, rounded in front and emar-

ginate behind; wings hyaline; anterior legs palish in front; basal segment of abdomen polished, with a few large scattered punctures; apical segment polished, the two last each with a central white spot. Length 6 lines.

Hab.—Illinois, (Dr. Lewis). One ♀ specimen.

I. helvipes.—♀. Small, robust, polished; narrow frontal orbits, interrupted on each side of antennæ, white; mouth testaceous; palpi pale; antennæ short, subserrate, brown-black above, dull testaceous beneath, brown-black at base; a line on the collar, sutural line on each side of thorax before the wing, spot on the tegulæ anteriorly, a short line beneath each anterior wing and the lateral margins of the scutellum confluent at tip, all whitish; the elevated lines of the metathorax sharply defined, with the central area moderate and transversely subquadrate; wings hyaline; legs short, robust, especially the posterior femora, rufous, coxæ black, tips of posterior tibiæ and their tarsi blackish; abdomen robust, posterior margin of the fifth segment, and the two following segments entirely, yellowish-white. Length 4 lines.

♂. More slender than the ♀, which it otherwise closely resembles; in one specimen the areolet of the anterior wing is triangular, with an additional, rudimental nervure at tip. Length 4 lines.

Hab.—Mass., Conn., (Coll. Mr. E. Norton); Ills., (Dr. Lewis). One ♀, three ♂ specimens. Easily recognized by the small size and short, thick red legs.

I. clarus.—♀. Entirely bright blue, shining; narrow anterior orbits, and a line on the posterior orbits, white; head much narrowed beneath; antennæ long, slightly thickened near the tips, with a broad white annulus a little beyond the middle; a short line before and another beneath the tegulæ, white; scutellum with a white spot at tip; metathorax with a short spine on each side behind, the central area large, quadrate; wings hyaline, slightly yellowish, areolet triangular; legs blue, the anterior pair whitish in front; abdomen rather short, slightly dilated beyond the first segment, which is slender at base and suddenly dilated at tip, the upper surface of which is polished, but rather uneven; tip of abdomen polished. Length 6 lines.

Hab.—Massachusetts, (Ridings). One ♀ specimen. A very pretty species, with the blue color quite bright.

I. albomarginatus.—♂. Black; face, orbits, broad on the lower posterior half, clypeus, mandibles and palpi pale yellow; antennæ black, basal joint beneath yellow; tegulæ, sutural line before and short line beneath each anterior wing, square spot on disk of mesothorax, scutellum, post-scutellum, two square marks on metathorax behind, anterior margin of prothorax, and an irregular mark on each side of pleura, just behind anterior coxæ, dull yellowish; wings hyaline, very faintly tinged with dusky, nervures and stigma brown, areolet triangular; legs black, four anterior coxæ, trochanters and femora white beneath, their tibiæ, tarsi, apical half of posterior trochanters and their tibiæ at base, also white; abdomen elongate, narrow, tip of first segment, and narrow posterior margins of remaining segments, white; on the third and following segments the fasciæ do not extend entirely to the sides, but become gradually shorter, so that the two apical segments have only a white central spot instead of a fascia. Length 6 lines.

Hab.—Mississippi, (Coll. Mr. E. Norton). One ♂ specimen.

I. consignatus.—♂. Black, opaque; head narrowed beneath; anterior orbits, face, except a narrow black line down the middle, a spot on each side of the clypeus, and a spot on the lower part of the cheeks, white; palpi pale; antennæ long, subserrate, slender at tips, black, with a white or yellowish-white annulus about the middle: tegulæ, a sutural line before and a spot beneath, and the scutellum, white; metathorax immaculate, central area moderate, quadrate; wings hyaline, faintly dusky; legs black, tips of four anterior femora, the anterior pair within, and their tibiæ and tarsi at base, whitish; posterior tibiæ palish at base; abdomen long, narrow; a wavy line on each side of second segment, a spot on each side of third, sometimes its posterior margin, and the posterior margin of the remaining segments, whitish. Length 7 lines.

Hab.—West Virginia, (Ridings.) Two ♂ specimens.

I. robustus.—♀. Large, robust, black; anterior orbits, dilated on each side of the face, yellow; middle of face brownish; clypeus ferruginous, brownish at tip; mandibles brownish; antennæ rather long, stout at base, slender at tips, reddish-brown at base, yellow in the middle and black at tips; tegulæ and a line beneath, yellow; scutellum flat, polished, yellow; metathorax finely rugose, with a large subrotund central area; wings yellowish-hyaline, nervures and stigma ferruginous; coxæ black, the two anterior pairs spotted beneath with yellow; trochanters yellow; four anterior femora ferruginous, yellow at tips, their tibiæ and tarsi yellow; posterior femora and tips of their tibiæ black, rest of their tibiæ and their tarsi yellow; abdomen robust, convex, tip compressed; first segment broadly dilated at tip, black, second and third with the anterior half yellow, the posterior half brown-ferruginous, remaining segments black, with their posterior margin yellow. Length $7\frac{1}{2}$ lines.

Hab.—Canada, (Billings.) One ♀ specimen. Allied to *jucundus*, but very distinct.

I. subdolos.—♀. Robust, ferruginous or brown-ferruginous, face and cheeks stained with black; antennæ stout, joints thick set, ferruginous, blackish at base and tip, yellowish or whitish in the middle; thorax on the sides and beneath black; mesothorax shining; scutellum yellow, the region on each side black; metathorax deeply excavated behind, central area large, subquadrate; wings uniformly fusco-hyaline; legs ferruginous, coxæ, four anterior femora behind, and the posterior pair, except base, black; abdomen robust, ovate, ferruginous; second and third segments with a yellow band at tip, sometimes obsolete on the third segment; base of second, third and fourth segments more or less black, generally the tip of first segment has a yellow spot on each side, sometimes confluent; apical segment entirely ferruginous. Length $5\frac{1}{2}$ –6 lines.

Hab.—Maine, Massachusetts. Four ♀ specimens.

I. creperus.—♂. Differs from *Grote* by the thorax being always black, not varied with fulvous; by the posterior femora, except base, the tips of their tibiæ, and the posterior coxæ, being black; and by the second and following segments of the abdomen being fulvo-ferruginous, black at base, without any yellowish shade at the tip of the segments, except that of the first, which is always yellow. Length $6\frac{1}{2}$ – $7\frac{1}{2}$ lines.

Hab.—Canada, West Virginia, Illinois. Sixteen ♂ specimens.

I. atrifrons is probably the ♀ of *comptus*. It varies in the width of the abdominal fasciæ and also in the markings of the metathorax. The lines on the mesothorax are sometimes obsolete or wanting.

I. zebratus.—♀. Rather robust, closely punctured but shining, head narrowed beneath, yellow, middle of the vertex, from the base of antennæ to occiput, and the occiput behind, black; antennæ slender, black, with a broad white annulus, basal joint beneath yellow; a large square mark on posterior middle of mesothorax, a sutural line on each side in front, a line on collar, tegulæ, a line beneath, a large mark on each side of pleura, scutellum, post-scutellum, and two large spots on metathorax, confluent anteriorly, all yellow; central area of metathorax large, subquadrate; wings pale yellowish-hyaline, nervures and stigma pale luteous; legs ferruginous, the four anterior coxæ beneath, the posterior pair behind, and at tips beneath, all the trochanters, the anterior legs in front and base of posterior tibiæ, yellow; abdomen with a broad, apical, yellow band on the four basal segments, and a transverse apical spot on each of the remaining segments. Length 5 lines.

Hab.—Illinois, (Dr. Lewis). One ♀ specimen. A very pretty and distinct species.

I. mulator, (Harris' Catal.).—♂. Very near to *flavizonatus*, but differs by the face being black, with a yellow stripe on each side, and two approximate spots beneath the antennæ; by the immaculate metathorax and first abdominal segment, and by the second segment having a fulvous band at both base and apex; the third, fourth, sixth and seventh segments have each a narrow, pale yellow fascia, broadest on the third segment; the legs are colored as in *flavizonatus*, except that the femora are pale fulvous. Length $6\frac{1}{2}$ lines.

Hab.—Canada, Massachusetts. Two ♂ specimens.

I. zelotypus.—♂. Black, subopaque; face and clypeus pale ferruginous, shading into yellow on the sides; palpi yellow; antennæ long, black, basal joint yellow beneath; tegulæ, a short line in front and another beneath, yellowish; scutellum and post-scutellum polished, dull ferruginous; metathorax rugose, the elevated lines well defined, the central area large, quadrate; wings yellowish-hyaline, dusky at tips; legs yellow, the four anterior coxæ at base beneath, the posterior pair entirely, the four anterior femora at base behind, the posterior pair except base, and the tips of their tibiæ, black, tips of tarsi dusky; abdomen long, rather broad, flattened; first segment slender, broadly dilated at tip, which is uneven, black, with a yellow apical band; second and third segments black, with a broad yellow band at tip, remaining segments ferruginous or brown, beneath dull ferruginous. Length $6\frac{1}{2}$ —9 lines.

Hab.—West Virginia, (Ridings). Two ♂ specimens.

I. calitergus, (Harris' Catal.).—♀. Rather robust, black; head tinged with dull rufous, the anterior orbits dull ferruginous; antennæ stout, brown-black, with a broad yellowish annulus; thorax entirely black, except the scutellum, which is yellow and polished; wings yellowish-hyaline, nervures brown, stigma fulvous; legs black, the tibiæ with a broad yellowish annulus at base, tarsi brownish-fulvous; abdomen black, with a yellow apical band on the three basal segments, and a central yellow spot on the sixth and seventh segments. Length 6 lines.

Hab.—Maine, (Harris' Collection). One ♀ specimen.

I. magniceps.—♀. Black, head and thorax shining, abdomen opaque; head unusually large, quadrate, not narrowed beneath, white, the middle of the vertex, from the insertion of the antennæ to the ocelli, the posterior part of the occiput, and the tips of mandibles, black; antennæ rather short, not robust, black,

with a broad white annulus beyond the middle; thorax black above, white beneath, shining; collar, two lines on disk of mesothorax, a broad sutural line on each side, tegulæ, a spot beneath, scutellum and post-scutellum, all white; metathorax coarsely and confluent punctured, white, with a large, oblong, black spot on each side of the middle, confluent with a blackish stain on the lateral sutures, and a square blackish mark on the apical middle, the elevated lines obsoletely defined; wings hyaline, faintly yellowish, slightly dusky at tips; areolet small and triangular; legs rather slender, entirely pale honey-yellow, except the four anterior coxæ beneath, which are whitish; abdomen narrow, depressed, opaque, the punctures being dense and linear, making the surface appear almost striate; first segment slender, reddish at base, dilated at tip, which is confluent punctured; all the segments with a white band at tip, dilated on the extreme sides. Length 8 lines.

♂.—Marked like the ♀, but the form is more slender, the antennæ very long and subserrate, the basal joint spotted beneath with white, and the legs brighter colored and more slender. Length $7\frac{1}{2}$ lines,

Hab.—Cuba, (Coll. Dr. J. Gundlach, No. 528 ♀, 538 ♂.) One ♂, one ♀, specimens.

I. lætus.—This species is easily recognized by having the *posterior* portion of the four basal segments of the abdomen more or less yellow; generally the second, third and fourth segments are yellow, with merely the basal margins black; the dilated tip of the first segment is yellow, and occasionally, in specimens where the markings are unusually well developed, the whole of this segment is yellow; the yellow band on the fourth segment is sometimes constricted in the middle, in two specimens dividing the band into two spots; the fifth and remaining segments are always black; the mesothorax has occasionally a spot or two short lines on the disk; the scutellum and post-scutellum are always yellow; the metathorax varies from being entirely yellow to entirely black, sometimes yellow with a black stripe down the middle, or black with a broad yellow stripe down each side; the wings vary from hyaline to dusky; the legs are yellow, including the four anterior coxæ; the posterior coxæ—sometimes varied with yellow—their femora more or less, and the apical third of their tibiæ, are black; sometimes the four anterior femora are more or less black behind, sometimes more or less tinged with reddish; tarsi dusky at tips; the pleura is occasionally varied with yellowish. Length $6\frac{1}{2}$ —7 lines. Forty-two specimens examined.

I have been told that this cannot be the *lætus* of Brullé, because the colors of the posterior legs are *exactly the opposite* of what is described by him. But I am very much inclined to believe that Brullé meant exactly contrary to what the types made him say; for I know of no species of *Ichneumon*, either domestic or foreign, that has the posterior legs *yellow* with the trochanters, base of the femora and the basal two-thirds of the tibiæ *black*, and I do not believe that any species can be found as having the legs with the colors so arranged.

I. mimicus.—♂. Black; the orbits, broad on the cheeks, and all beneath the antennæ, yellow, brown above, dull red beneath; tegulæ, sutural line before and a short line beneath anterior wing, scutellum, post-scutellum, a large mark occupying most of the metathorax, sometimes reduced to two small spots, yellow; wings hyaline or subhyaline; the two anterior pairs of legs, including their coxæ, yellow, sometimes the femora are slightly blackish behind; posterior legs yellow, their coxæ, femora and tips of tibiæ, black, their tarsi more

or less dusky at tips; abdomen convex, the basal segment broadly dilated at tip, subconvex, shining, not rough; apical half of all the segments yellow; the apical segments are often indistinctly banded. Length 5—5½ lines.

Hab.—Mass., Conn. Fifteen ♂ specimens. Very much like *latus* Brullé, but is smaller and more convex.

I. comes.—This species is distinguished by the *anterior* part of the second and third segments of the abdomen being more or less yellow. The type specimen is larger and more robust than usual and is the only specimen out of 35 that has the yellow longitudinal lines fully developed, i. e. extending to the anterior margin and joining the sutural line on each side; generally the mesothorax is immaculate and the lateral sutural lines more or less distinct, often reduced to a mere dot just before the tegulæ; some specimens have a yellow spot on the disk of the mesothorax and others two short lines. The scutellum is always yellow, but the post-scutellum is occasionally black. The metathorax varies from immaculate to more or less yellow; the four anterior femora are often more or less black behind; the posterior coxæ are sometimes varied with yellow, while in other specimens the four anterior coxæ are more or less black. The basal segment of the abdomen is always black, sometimes with a yellow dot on each side of the dilated tip; the second segment generally has its anterior one-half or two-thirds yellow, with the posterior margin of the yellow band often undulate or uneven, occasionally the yellow extends almost to the tip of the segment, which is more or less unevenly marked with black; the third segment is sometimes entirely yellow, sometimes with the posterior margin narrowly black, sometimes with only a black dot on each side, sometimes the posterior one-third to one-half is black; four specimens from West Virginia have the yellow bands on the second and third segments narrow and more or less obscure; the fourth and following segments are generally entirely black, but in two or three specimens the sides of the fourth segment are more or less distinctly marked with yellow, and three specimens, identical with the *aleatorius* of Harris' Catalogue, have a triangular yellow mark on each side of the fourth segment, almost contiguous in one specimen; occasionally the pleura has a more or less developed yellow spot on each side; the wings vary from hyaline to dusky. Length 7—8½ lines. Thirty-five ♂ specimens from Can., Mass., Del., W. Va. and Ills.

I. feralis.—♀. Black, head quadrate, not narrowed beneath; face sometimes more or less brownish; antennæ short, robust, joints thick-set, black, a rather broad white or yellowish annulus about the middle; mesothorax flattened, shining, coarsely punctured; scutellum flat, polished, white; metathorax rugulose, the central area large, quadrate; tegulæ brownish; wings subhyaline, uniformly tinged with pale fuscous, stigma and nervures brown; legs black, tips of anterior femora, the four anterior tibiæ, except tips which are brown, and a broad annulus on posterior tibiæ, white; tarsi brownish; abdomen white, second segment with a broad apical white band, and the two terminal segments with a white spot on their apical middle; sometimes all the markings are yellow and the third segment has a narrow apical band or a central spot, and the fifth segment an apical spot, like those on the two following segments; in one specimen the second and third segments are tinged with brownish. Length 4½—5 lines.

Hab.—Canada, Massachusetts. Four ♀ specimens.

I. Dakota.—♂. Black, opaque; face, orbits, clypeus, mandibles and palpi lemon-yellow; antennæ long, blackish above, fulvous beneath, the basal joint yellow beneath; two short lines on disk of mesothorax, tegulæ, sutural line before, a short line beneath, scutellum, post-scutellum, and posterior half of metathorax, lemon-yellow; elevated lines of metathorax sharply defined, central area large, open behind; wings hyaline, faintly tinged with yellowish, nervures brown, stigma fulvous; legs yellow, the four anterior femora behind fuscous; posterior coxæ, except tips, their femora, except extremities and base within, and the apical third of their tibiæ, black; abdomen flattened, opaque black, third segment with a broad yellow band, shaded behind with fulvous, lateral margins of the fourth and fifth segments marked with fulvous; apical segment tinged with brownish; beneath yellow, darker laterally. Length 6 lines.

Hab.—Dakota Territory, (Ulke). One ♂ specimen.

I. inurbanus.—♀. Robust, black, shining; head robust, not narrowed beneath; antennæ short, robust, joints short and thick, black, with a pale annulus about the middle; mesothorax polished, finely punctured; scutellum flat, polished; metathorax opaque, rugose, central area oblong-quadrate; tegulæ piceous; wings violaceous-black; legs shining black, the anterior pair palish in front; tarsi tinged with brown; abdomen robust, ovate, finely and closely punctured, brown-ferruginous, basal segment black. Length 6 lines.

Hab.—West Virginia, (Ridings). One ♀ specimen. Closely allied to *I. rufiventris*, but distinct by the shorter, stouter antennæ and finer sculpture of the body.

I. insolens.—♂ ♀. Rather large, head and thorax robust, abdomen long and narrow, black, densely punctured, somewhat shining; head scarcely narrowed beneath, anterior orbits beneath antennæ and a dot on each side of anterior ocellus white; antennæ short in ♀, longer in ♂, slender at tips, subserrate in ♂, black, with a white annulus about the middle, obsolete beneath; thorax gibbous, immaculate; scutellum long, convex, coarsely punctured and clothed with short black hair; metathorax coarsely punctured, except the quadrate central area which is smooth and polished, as well as the carinæ that bound it; wings broad, not long, violaceous-black; nervures and stigma black; areolet large, quadrate, very slightly oblique, the second recurrent nervure straight; legs slender, black, the posterior pair long; anterior legs before, tips of middle femora, and the posterior femora entirely, rufous; abdomen long, narrow, entirely dull rufous, densely and coarsely punctured; venter yellow. Length 6½–7 lines.

Hab.—Georgia, Florida, Mississippi, Louisiana. Two ♀, fifteen ♂ specimens. Probably not a true *Ichneumon*. Closely allied and congeneric with *I. meridionalis*, from Cuba.

I. semicæruleus.—♀. Robust; head, thorax and base of abdomen deep blue, shining, clothed with a fine, short, pale pubescence; anterior orbits subobsoletely pale; antennæ with the basal third black, middle white and the apical third brown; tegulæ black, with a white dot in front; scutellum polished, with a round white central spot; metathorax rugulose, central area large, quadrate, not well defined; wings pale yellowish-hyaline, nervures and stigma black; legs blue, anterior pair pale in front, tips of posterior femora and their tarsi ferruginous; abdomen oblong-ovate, first segment deep blue, remaining segments rufo-ferruginous, polished towards the apex; beneath as above. Length 6 lines.

Hab.—West Virginia, (Jas. Ridings). One ♀ specimen. A beautiful species, allied to *I. detritus*.

I. instabilis.—♀. Black or ferruginous, rather robust; head slightly narrowed beneath, the anterior orbits more or less red or yellowish, sometimes the head is entirely red or the face and clypeus are varied with brown and yellowish or reddish; antennæ moderately long, not robust, generally fulvous at base, yellow in middle and black at tips, sometimes only fulvous with tips black, or black at base, then fulvous, yellow and black; third joint elongate, longer than the fourth which is subequal with the fifth; thorax often entirely ferruginous or more or less varied with ferruginous, sometimes black immaculate, except the scutellum, which is always yellow and polished; tegulæ ferruginous, often with a reddish spot in front and another beneath; post-scutellum sometimes reddish; metathorax rugulose, the central area large and subquadrate; wings subhyaline, more or less stained with yellow, nervures brown, stigma pale honey-yellow; legs honey-yellow or ferruginous; the coxæ, tips of posterior femora, of their tibiæ and most of their tarsi black, sometimes the most part of the posterior legs is black; abdomen oblong-ovate, subconvex, slender at base, generally entirely ferruginous, sometimes the fourth and fifth segments above are black or fuscous, sometimes the second and third segments only are ferruginous, and sometimes the incisures of the segments are more or less blackish; beneath ferruginous or yellowish-ferruginous, dusky or black at tip. Length $5\frac{1}{2}$ –6 lines.

♂. This sex is exceedingly variable in color, some examples being almost entirely yellowish-ferruginous, and others almost entirely black. Head black, with the anterior orbits and all beneath the antennæ yellow; antennæ long, slender, black above and brownish or fulvous beneath, the basal joint yellow beneath; thorax generally black, sometimes more or less varied with ferruginous, and in one specimen the mesothorax has four abbreviated pale vittæ; sometimes the thorax is black, immaculate, except the scutellum which is always yellow; generally, there is a spot or a sutural line before the wings and a spot or line beneath; the post-scutellum is often reddish; legs honey-yellow; the four anterior coxæ often more or less yellow or honey-yellow, sometimes black spotted with yellowish beneath; the posterior coxæ are generally black, sometimes more or less ferruginous, their trochanters generally half black and half honey-yellow, sometimes their femora are entirely black or half black, generally only tipped with black, rarely entirely honey-yellow, their tibiæ tipped with black; the general color of the legs varies from lemon-yellow to ferruginous; abdomen depressed, opaque, sometimes entirely yellowish-ferruginous, but generally black, with the second and third, and sometimes part of the fourth segments ferruginous or yellowish-ferruginous; the first segment is either entirely ferruginous or black tipped with ferruginous, or with two apical yellow spots; the second and third segments are entirely ferruginous, or yellow stained with ferruginous; the fourth is either entirely black, or black spotted with ferruginous, or entirely ferruginous, the remaining segments are generally black or brown, often more or less varied with ferruginous; several specimens have the second and third segments bright yellow and the rest black. Length 5–7 lines.

Hab.—Me., Conn., N. Y., N. J., W. Va. Twenty-seven ♀, forty-four ♂ specimens.

I. electus.—♂. Black; face white, with a median black spot or line on the sutures; clypeus entirely white or with two white spots; palpi pale, black at base; antennæ long, slender, much attenuated at tips, serrate, black, the basal joint white beneath; tegulæ, a sutural line before and a short line beneath, scutellum and post-scutellum white; in one specimen the posterior margin of the central area of metathorax is white; wings hyaline, nervures black; legs black, varied with white; in one specimen all the coxæ are white, black at base beneath; in the other specimen they are black, the two anterior pairs spotted beneath with white; anterior femora in front, the four anterior tibiæ and tarsi, the posterior tibiæ, except tips, and their tarsi more or less, also white; in one specimen the intermediate tibiæ has a white line beneath; abdomen with the second, third and base and sides of fourth segments bright yellowish-ferruginous. Length 6–7½ lines.

Hab.—Connecticut, (Coll. Mr. E. Norton). Two ♂ specimens.

I. volesus.—♀. Robust, dull black, head and sides of thorax shining, head not narrow beneath; antennæ with a white annulus about the middle; scutellum polished, metathorax rugulose, central area oblong-quadrate, posterior angles prominent cariniform; tegulæ dull ferruginous; wings pale fusco-hyaline, nervures brown, stigma fulvous; legs black, tips of anterior femora, their tibiæ and tarsi, most of the middle tibiæ and tarsi, and the basal two-thirds of the posterior tibiæ ferruginous, their tarsi brown; abdomen robust, ovate, black, second and third segments entirely ferruginous, two apical segments with a central white spot, beneath as above, except that the apical white spots are wanting. Length 6 lines.

Hab.—Massachusetts, (J. Ridings). One ♀ specimen.

I. Nortonii.—♀. Black, thinly pubescent, head broad, slightly narrowed beneath, eyes large and prominent; a white spot on each side of the vertex on the anterior orbits; antennæ long and unusually slender, especially at tip, black, with a white annulus about the middle, basal joints of flagellum long and subequal; two spots on the collar, a spot before tegulæ and another beneath, and the scutellum except tip, white; a ferruginous spot on the post-scutellum; metathorax densely and confluent punctured, the elevated lines well defined, the central area elongate, subquadrate; wings subhyaline, dusky at tips, nervures brown, stigma yellow, areolet 5-angular; legs slender, black, thinly pubescent, tips of four anterior femora, their tibiæ and tarsi, and basal half of posterior tibiæ rufo-testaceous; abdomen subdepressed, narrow, ferruginous; first segment black at base, slender, dilated and depressed at tip, which is smooth and shining above, basal foveæ of second segment very deep; the fifth and following segments black, the two last tipped with white. Length 5½ lines.

Hab.—Connecticut, (Coll. Mr. E. Norton). One ♀ specimen. A very pretty and distinct species.

I. finitimus.—♀. Head black, sides of the face, clypeus, most of the mandibles and the palpi white; one specimen has the face white, except a small black central spot; antennæ long, slender, black, with a white annulus beyond the middle, at base beneath the joints are reddish; thorax black, sometimes brownish; the metathorax, except sometimes its lateral margin, and more or less of the pleura ferruginous; metathorax excavated behind, with a short, blunt, prominent spine on each side, the elevated lines well defined, the central area quadrate, rather large; tegulæ, scutellum and post-scutellum white; wings hya-

line or subhyaline, iridescent, areolet triangular, legs rather long, ferruginous, the four anterior coxæ and trochanters white, tips of posterior femora, of their tibiæ and most of their tarsi black; abdomen long, narrow, very slender at base, pale ferruginous; posterior margin of the fourth segment, the fifth entirely, the sixth, except apex, and the sides of the following segments black, rest of the apical segments above, white; beneath honey-yellow, the tip black. Length $4\frac{1}{2}$ lines.

Hab.—Connecticut, Pennsylvania, Illinois. Four ♂ specimens. Allied to *terminalis* Cresson.

I. milvus, (Harris' Catal.)—♂. Head and thorax black; anterior orbits, face, clypeus, mandibles and palpi yellow or fulvous; antennæ long, slender, especially so at tips which are dusky, the rest fulvous; tegulæ, a spot before, the scutellum and a spot behind, and the tegulæ, bright fulvous or yellow; metathorax finely sculptured, with the elevated lines sharply defined, the posterior angles produced into a short blunt spine, central area quadrate or subquadrate; wings long, ample, pale yellowish-hyaline, nervures and stigma fulvous, areolet five-angular, narrow above; legs rather slender, entirely yellow or bright honey-yellow, posterior pair long; abdomen long, narrow, shining, yellow or bright honey-yellow, the fifth and remaining segments deep shining black, and sometimes the fourth segment, except the basal corners, is also black. Length 7 lines.

Hab.—Massachusetts, Connecticut, Rhode Island. Four ♂ specimens.

I. bariolus.—♀. Black, shining, finely punctured; head not large, anterior orbits dull ferruginous; mandibles luteous, black at tips; antennæ rather slender, brown-black, with a white annulus about the middle; thorax immaculate, except a small transverse spot beneath each anterior wing; metathorax feebly sculptured, the elevated lines not sharply defined, the central area moderate, subrotund, the posterior truncation abrupt and transversely striated; wings subhyaline, nervures and stigma black, the areolet broad, 5-angular; coxæ black, more or less tinged with rufous, the posterior pair with a rather long, blunt tooth beneath near the tip; the four anterior legs ferruginous, the posterior pair brown-black, the tibiæ, except tips, and tarsi rufo-fuscous; abdomen rather short, depressed, shining black, the second, third and fourth segments, except apex, dull rufous; first segment smooth and polished; the basal foveæ of second segment very transverse and rather deep. Length 4 lines.

Hab.—Massachusetts, (Ridings.) One ♀ specimen.

I. hebrus.—♀. Small, black, densely punctured, finely pubescent; head broad, scarcely narrowed beneath; antennæ rather short, black, the third, fourth and fifth joints rufous, the tenth to thirteenth white; thorax immaculate; metathorax rugulose, the elevated lines sharply defined, the central area elongate, subquadrate, posterior truncation rather abrupt, and transversely striated; tegulæ brownish; wings subhyaline, tinged with dusky, iridescent, nervures brown, areolet broad, 5-angular; legs, including all the coxæ, rufo-ferruginous, apical half of posterior femora and tips of their tibiæ, black, tips of all the tarsi dusky; posterior coxæ with a short, blunt tubercle beneath towards the tip; abdomen rather narrow, subparallel, rufous, the fifth and following segments black; first segment shining, almost smooth, not broadly or suddenly dilated at tip; beneath as above. Length $4\frac{1}{2}$ lines.

♂. Much like the ♀, with the antennæ longer, and the basal joints black.

Hab.—Connecticut, Illinois. Two ♀, one ♂, specimens.

I. Hebe.—♀. Small, black, head broad, eyes large, most of mandibles and the palpi testaceous; antennæ rather short and slender, brown-black, joints 2—5 honey-yellow, a narrow whitish annulus a little beyond the middle, the tip beneath paler, joints 4—6 elongate and subequal; thorax black, immaculate; tegulæ white; wings subhyaline, iridescent, nervures pale, areolet broad, 5-angular; legs, including the coxæ, pale honey-yellow, the coxæ and trochanters paler; tips of posterior femora and of their tibiæ black; tarsi yellowish, their tips blackish; posterior coxæ with a stout tooth beneath near the tip; abdomen oblong-ovate, depressed, slender at base, pointed at tip; first segment smooth and shining above at tip, not suddenly dilated, second segment transversely depressed at base; second, third and fourth segments honey-yellow, sometimes the tip of the first segment is tinged with reddish. Length 3—3½ lines.

♂. Sides of face and spot on each side of clypeus, white; antennæ entirely reddish-brown, dusky above and at base beneath; posterior coxæ unarmed, posterior tarsi dusky; first segment of abdomen honey-yellow, smooth and shining. Length 3 lines.

Hab.—Connecticut, Illinois. Two ♀, three ♂ specimens. The male specimens described above may not belong to this species.

I. fungor, (= *Alomya fungor* Norton, MS.)—♂. Long, slender; head large, transversely quadrate, densely punctured, thinly clothed with a fine whitish pubescence, black, clypeus more or less ferruginous, the mandibles, except base and apex, and the palpi, yellow; antennæ long, filiform, fulvous, ferruginous or brown-ferruginous; thorax closely punctured, thinly pubescent, black, shining, immaculate, except scutellum, which sometimes has a reddish spot; occasionally the mesothorax and metathorax have rufous stains; metathorax densely sculptured, thinly pubescent, the elevated lines sharply defined, the central area quadrate or subquadrate, moderate; tegulæ generally pale yellow; wings hyaline or subhyaline, areolet broad, 5-angular, nervures and stigma brown, both more or less yellowish at base; legs slender, and including their coxæ, honey-yellow, the posterior coxæ at base beneath, their tibiæ at tips and most of their tarsi are generally dusky; abdomen long and slender, especially at base, entirely ferruginous or honey-yellow, the first segment only slightly dilated at tip, which is smooth and shining, sometimes faintly aciculate; remaining segments shining and subpubescent. Length 4—5 lines.

Hab.—Ct., N. Y., Pa., Ills. Twenty ♂ specimens.

I. hospitus.—♀. Robust, black; the anterior orbits and face tinged with rufous; antennæ tricolored, the base ferruginous, middle yellowish-white, and apex black; thorax flattened; scutellum yellow; tegulæ ferruginous; wings subhyaline, nervures and stigma luteous, areolet 5-angular; legs, including their coxæ, ferruginous, apex of posterior femora and of their tibiæ black; abdomen rufo-ferruginous, the fourth and following segments black. Length 3½ lines.

♂. More slender than the ♀, the face and clypeus yellowish-ferruginous, with the sides of both yellow; the antennæ nearly as long as the body, subseriate, brown above, with a narrow fulvous annulus beyond the middle, beneath entirely fulvous; the posterior tibiæ are dusky, with a yellowish-ferruginous annulus near the base; the abdomen is narrow, parallel, with the fourth and following segments brown-black. Length 4 lines.

Hab.—Canada, (Saunders.) One ♀, one ♂, specimens.

I. citrifrons.—♂. Small, black; face, clypeus, spot on mandibles, and the palpi, lemon-yellow; antennæ rather long, filiform, fulvous, darker above; thorax shining black; tegulæ, spot before and another beneath, scutellum and post-scutellum lemon-yellow; metathorax with sharply defined elevated lines and a large quadrate central area; wings hyaline, iridescent, nervures pale, areolet 5-angular; legs, including the coxæ, pale lemon-yellow, the four anterior coxæ and trochanters lemon-yellow beneath, apical half of posterior femora and tips of their tibiæ black; tarsi yellowish; abdomen blackish, the second and third, and base of fourth segments pale ferruginous; first segment bilineate, finely aciculate; base of second segment deeply impressed on each side. Length 3—3½ lines.

Hab.—Connecticut, Pennsylvania. Two ♂ specimens.

I? trogiformis.—This will probably form a new genus. The ♀ is uniformly ferruginous, the antennæ shorter than in ♂, and the legs are entirely ferruginous, with the tarsi not yellow as in the ♂. Eight ♂, one ♀, specimens, from New Jersey, Florida and Louisiana.

I. Lewisii.—This species varies considerably. The head, thorax above and abdomen are sometimes ferruginous, with the thorax beneath and incisures between the first, second and third segments of abdomen, black; sometimes the metathorax is black, and the mesothorax and scutellum reddish-brown; the antennæ are long and slender, tricolored—fulvous, yellow and black; the legs fulvous, with the coxæ black, and the base of the third abdominal segment has a broad black band; one specimen has the body almost entirely blackish, the head, scutellum, apex of second abdominal segment and the apical segments being dull reddish; the wings are always uniformly dark fuscous, and more or less violaceous. *I. sandix* is probably a variety of this species.

I. maius.—♀. Head black, narrowed beneath, palpi pale; antennæ rather long and slender, brown, with a white annulus about the middle; thorax black, mesothorax and most of prothorax brown-ferruginous, the former shining and depressed; scutellum obscure yellowish; metathorax shining, rugulose, broadly excavated posteriorly, central area quadrate; wings hyaline, faintly yellowish, nervures and stigma brown; legs ferruginous; coxæ, base of trochanters, middle femora behind, most of posterior femora, and tips of their tibiæ, black; abdomen broad, ovate, depressed, shining, rufo-ferruginous; petiole of first segment slender, flat, polished, black; two apical segments above with a yellow central spot; beneath yellowish. Length 5 lines.

Hab.—Massachusetts, (Mr. F. Stratton, May 17.) One ♀ specimen.

I. fuscifrons.—This species varies by having the anterior orbits more or less yellow, sometimes almost white; sometimes there is a yellow sutural line before the wings; the legs are sometimes ferruginous, with the coxæ spotted with yellow; the abdomen is also sometimes ferruginous, with an obscure yellowish spot on each side of second segment at tip. Three ♀ specimens from Illinois.

I. disparilis.—♀. Ferruginous, tinged with dusky; upper anterior and a spot on the posterior orbits, yellow; antennæ stout; blackish-brown, with a yellowish annulus about the middle, between the middle and apex the joints are dilated and flattened beneath; incisures of the thorax and the region on each side of scutellum blackish; tegulæ, short line before and another beneath, scutellum and post-scutellum yellow; metathorax shining, confluent punctured, excavated behind, the lateral angles prominent, the elevated lines well defined, and the central area smooth, subconical, emarginate behind; wings hyaline, ner-

vures and stigma brown, areolet 5-angular; legs stout, rather short, ferruginous, the four anterior coxæ and trochanters, and the posterior trochanters, more or less yellowish, tips of posterior coxæ, of their femora and of their tibiæ black; abdomen robust, convex, slender at base, shining, densely punctured, ferruginous, the disk of the second and the following segments more or less fuscous; basal segment dilated at tip, flattened above, shining, with a few punctures on the apical margin; an apical spot on each side of the second and third segments, a central spot on the two apical segments, yellow. Length 5 lines.

Hab.—Connecticut, (Coll. Mr. E. Norton.) One ♀ specimen. In consequence of the structure of the antennæ, this species may belong to the genus *Joppa*.

I. canadensis.—♀. Robust, black, shining, anterior orbits, above antennæ rufous; antennæ short, joints thick set, brown-black, with a broad white or yellowish annulus in the middle; scutellum flat, polished, bright lemon-yellow, sometimes a spot of the same color on the post-scutellum; metathorax more or less distinctly obliquely aciculated, the central area large, quadrate, a dull rufous stain on each side in one specimen; tegulæ brownish; wings uniformly pale fusco-hyaline, posterior pair paler; legs black, two anterior pairs ferruginous, their femora more or less black, their tibiæ with a broad yellow band at base, posterior femora black, their tibiæ yellow, black at tip, their tarsi ferruginous; abdomen robust, ovate, ferruginous, third and fourth segments with a black band at base, sometimes the second segment has a black spot on each side at base; first segment black at base, the tip often with a yellow dot on each side. Length 4—5 lines.

Hab.—Canada, New York. Four ♀ specimens.

I. ventralis.—♀. Small, robust, shining, black; anterior orbits, apical margin of clypeus, spot beneath the eyes, most of mandibles, and the palpi, ferruginous; antennæ stout, the joints very short and thick set, black, tip of the third and the fourth to twelfth joints fulvous; mesothorax and metathorax stained with dull ferruginous; scutellum very flat, polished, dull ferruginous; metathorax densely sculptured, rugulose, with a large, square, central area, not well defined; tegulæ testaceous; wings subhyaline, iridescent, nervures and stigma fulvous; legs robust, fulvous; the coxæ, basal half of trochanters, anterior femora behind, the four posterior femora, except extreme base and apex, and tips of posterior tibiæ, black; abdomen oblong-ovate, robust, fulvous, base of first segment, lateral margin of second at base, basal margin of third, and the fourth and fifth segments entirely, black; apical segments fusco-ferruginous; venter whitish, second to fourth segments with a black spot on each side, the two following segments with a broad black band; apex fuscous. Length 4 lines.

Hab.—Hudson's Bay Territory. (Coll. Mr. E. Norton.) One ♀ specimen.

I. signatipes.—♀. Black, robust; antennæ moderately long, stout to the apex, the joints short, thick set, black, reddish at base beneath, a narrow whitish or yellowish annulus about the middle; head robust, not narrowed beneath, more or less varied with reddish; thorax black, depressed; tegulæ, sutural line before and spot beneath, ferruginous, sometimes yellowish; mesothorax sometimes tinged with ferruginous; scutellum flat, polished, yellow; metathorax densely punctured, the elevated lines well defined, but not sharp, the central area quadrate or subquadrate; wings subhyaline; legs short and robust, four anterior coxæ red or brown, the posterior pair black; femora swollen, rufous, the posterior pair more or less black at tips; tibiæ ferruginous or dusky, with a yellow spot near the base; tarsi dusky; abdomen robust, convex, ovate, rufous

or ferruginous, immaculate, the extreme base of the first segment sometimes blackish. Length $4\frac{1}{2}$ —5 lines.

Hab.—Connecticut, Pennsylvania. Seven ♀ specimens. Closely allied to *canadensis*, but differs principally by the immaculate abdomen, that of *canadensis* being banded with black.

I. anceps.—♂ ♀. Elongate, narrow, subcylindric, polished, fulvo-ferruginous; head rather small, not narrowed beneath; antennæ slender, convolute, blackish, fulvous at base, a broad white annulus about the middle; space around the scutellum and the sutures of the thorax beneath, black; scutellum slightly convex, polished, bright lemon-yellow; metathorax feebly sculptured, the central area large, subquadrate, polished, the elevated lines not well defined; tegulæ pale honey-yellow; wings hyaline or yellowish, nervures fulvous, areolet rather large, 5-angular; legs moderate, four anterior coxæ pale beneath; tips of posterior femora, and of their tibiæ, black; abdomen long, almost cylindrical, the tip more or less compressed, highly polished; first segment slender at base, swollen and convex at tip, arcuate; apical segment with a yellow spot, sometimes obscure; in one specimen the apical segments are more or less stained with blackish; venter yellowish. Length 6— $6\frac{1}{2}$ lines.

Hab.—Connecticut, Delaware. Five specimens. Remarkable for the shape of the abdomen being like that of some species of *Eretastes*.

I. duplicatus, varies much in the color of the posterior legs which are sometimes mostly black, but generally the femora are entirely fulvous, occasionally with the tips blackish; their tibiæ are generally dusky, with the basal half yellowish; the coxæ vary from almost entirely black to almost entirely yellow or whitish, generally of the latter color, with an exterior black mark. Numerous ♂ specimens.

I. W-album.—This is very closely allied to *duplicatus*, Say, but the ♂ is larger, more elongate and slender, the head broader, the legs more slender and the abdominal segments proportionately longer and narrower. The second and following segments are sometimes much stained or spotted with blackish or fuscous, generally the second and third segments have a fuscous spot on each side before the middle; some examples have all the segments, except the first, entirely fulvous, immaculate. The posterior legs pale fulvous, with the coxæ and trochanters white, spotted above with black. The markings of the head and thorax are almost exactly like those of *duplicatus*. The ♀ is much more robust than the ♂, but is similarly colored, except the head, which is black, with the anterior orbits, generally interrupted on each side of antennæ, a spot on middle of face and more or less of the clypeus, either yellow or ferruginous; the antennæ are short and stout, black, reddish at base beneath, and with a white annulus in the middle; the pleura is often without any spots; the legs are short and robust, fulvous, the coxæ and trochanters whitish, the posterior coxæ marked with black as in the ♂; the abdomen is oblong-ovate, depressed, shining; the first segment smooth and shining at tip, which is margined with yellow; sometimes this segment varies from fulvous to black; second and third segments sometimes with a brown stain on each side as in the ♂. Length ♀, $6\frac{1}{2}$ —7 lines; ♂, 6—8 lines. Six ♀, eighteen ♂ specimens, from Mass., Ct., N. Y., N. J., Pa., Del., Md., D. C.

I. lascivus.—♂. Head black, the orbits, very broad on the cheeks, the face, except a triangular black mark on the middle, the clypeus, except a central black stripe, the mandibles, except tips, and the palpi, white; antennæ long,

slender, black, with a yellow annulus about the middle, the basal joint beneath white; thorax black, upper and lower margins of prothorax, two central, longitudinal lines on mesothorax, two spots on tegulæ, scutellum and post-scutellum, white; a large white mark on each side of pleura, bearing two oblique black lines; metathorax with two spots behind, and one on each extreme side, white; wings hyaline, nervures black, areolet triangular, slightly oblique; legs fulvous, the four anterior coxæ and trochanters white; posterior coxæ and trochanters black, the former with a large mark above, and their apex beneath, white; tips of tarsi dusky; abdomen fulvous, tinged with dusky at base; first segment bicarinate, black at base and apex, the latter with three white spots; second, third and fourth segments with a lateral white spot at tip; beneath fulvous. Length $4\frac{1}{2}$ lines.

Hab.—Illinois, (Dr. Lewis). One ♂ specimen.

I. honestus.—♂. Head white, two spots behind insertion of antennæ, spot on vertex covering ocelli, and the occiput, black; antennæ long, more slender at tips, subserrate, black, with a broad yellowish annulus beyond the middle, beneath the basal half is fulvous, and the apical half yellow and dusky, the basal joint beneath whitish; thorax black, margins of the prothorax, two longitudinal lines on mesothorax, two dots on posterior margin, tegulæ, scutellum, post-scutellum, metathorax, except base and sides, line beneath each anterior wing, and the pleura, except upper margins and spot in front of each middle coxa, all white; wings hyaline, faintly tinged with yellowish before the apex; legs honey-yellow, coxæ and trochanters white, the posterior pair with an exterior black mark, tarsi yellowish, tips of posterior femora within, and tips of their tibiæ dusky; abdomen elongate, narrow, subdepressed, honey-yellow, darker at apex; apical margin of the four basal segments and the apical segment entirely, yellowish-white, the margin on the second, third and fourth segments dilated on each side. Length 5 lines.

Hab.—West Virginia, (Jas. Ridings). One ♂ specimen. A prettily marked species.

I. uxorius.—♀. Robust, black; head large, slightly narrowed beneath, eyes prominent; orbits, very broad on the cheeks, face, clypeus, mandibles and palpi, white; antennæ long, convolute at apex, black, with a broad white annulus beyond the middle; collar, a large mark on each side of prothorax above, double spot on middle of mesothorax, a spot on each side behind near base of scutellum, line beneath each anterior wing, scutellum, except base, post-scutellum, most of pleura on sides and beneath, a large round spot on each extreme side of metathorax and the posterior excavation, all white; metathorax transversely rugose, the elevated lines sharply defined, the central area large and subquadrate, and the posterior angles produced into a blunt spine; wings hyaline, areolet smaller than usual and triangular; legs honey-yellow, the four anterior coxæ and trochanters and base of posterior trochanters behind, white; abdomen unusually short, ovate, polished, fusco-ferruginous above, the basal segment blackish at tip above; beneath dull honey-yellow. Length 6 lines.

Hab.—Cuba, (Coll. Dr. J. Gundlach, No. 30.) One ♀ specimen. May possibly be the ♀ of *serricornis*.

I. scitulus.—This is an exceedingly variable species. The antennæ have the annulus sometimes very broad, sometimes subobsolete; the thorax often more or less varied with ferruginous; the metathorax varies from black spotted with yellow, to entirely ferruginous or yellow; the pleura often varied with yellow;

the posterior coxæ and femora are always more or less black, and the abdomen varies from entirely honey-yellow to ferruginous banded with black. Length $2\frac{1}{2}$ — $4\frac{1}{2}$ lines. *I. pectoralis* seems to be closely allied to this species, differing principally in the colors of the posterior legs. Say must have meant that the pleura has a large yellow spot between the anterior and intermediate legs, instead of the "intermediate and posterior" pair, the four posterior coxæ being nearly or quite contiguous.

I. facetus.—♂. Head whitish, vertex and back of occiput black; antennæ long, slender, blackish above, with a broad white or yellowish annulus beyond the middle, the basal half beneath whitish; pectus and pleura white or whitish; prothorax more or less white, sometimes honey-yellow and black, margined with white; mesothorax varies from entirely honey-yellow to entirely black, sometimes there are two faint, pale, longitudinal lines in the middle, and sometimes two short white lines or a square white spot on the disk; tegulæ, scutellum and post-scutellum white or yellowish-white; metathorax whitish, variegated with honey-yellow at base, sometimes entirely honey-yellow; wings hyaline, iridescent; legs pale honey yellow, the four anterior coxæ and trochanters and posterior pair beneath white, tarsi pale yellowish; abdomen narrow, shining, entirely honey-yellow; first segment slender, smooth and polished, the extreme tip sometimes pale yellow. Length 4 — $4\frac{1}{2}$ lines.

Hab. West Virginia, (Ridings.) Fifteen ♂ specimens.

I. utilis.—♂. Pale honey-yellow; head broad, short, black or brown; face, clypeus, mandibles and palpi yellow; antennæ long, filiform, honey-yellow, dusky above, basal joint yellow beneath; sutures of the thorax blackish; tegulæ, sutural line before the wings and a short line beneath, anterior margin of prothorax, scutellum and the post-scutellum, yellow; metathorax sometimes tinged with yellow behind; wings subhyaline, nervures and stigma honey-yellow, areolet subtriangular; legs honey-yellow, the four anterior coxæ and trochanters pale yellow; abdomen entirely pale honey-yellow, first segment slender, slightly swollen at tip which is clearly and finely punctured and shining. Length 4 lines.

Hab.—Mass., (Ridings); Conn., (Norton).—This is a parasite on the Canker-worm, and is closely allied to *facetus*.

I. tumidifrons.—♀. Small, stout; head black, face protuberant (but not so much as in *Exochus*), ferruginous, clypeus and mandibles also ferruginous; antennæ short, stout, convolute, joints short and thick, basal joint large, subglobose, basal third ferruginous, middle yellowish-white and apical third black, thorax ferruginous, pleura beneath, the spaces on each side of scutellum, and the metathorax entirely, black; scutellum pale yellow, the post-scutellum tinged with ferruginous; metathorax punctured, shining, central area large, elongate-subquadrate, not well defined; tegulæ honey-yellow; wings subhyaline, iridescent, nervures pale brown, stigma honey-yellow, areolet broad, 5-angular; legs robust, ferruginous, including their coxæ; most of the posterior femora and tips of their tibiæ, black; abdomen broad, depressed, pale ferruginous, apex of fourth segment and the remaining segments black; apical segment with a central yellow spot. Length $2\frac{1}{2}$ lines.

Hab.—Illinois, (Dr. Lewis.) One ♀ specimen. The protuberant face resembles that of the genus *Exochus*, but the antennæ are convolute and the areolet of the anterior wing is 5-angular and complete. In some specimens of this species the color of the thorax may vary from entirely ferruginous to entirely black, as with *annulipes*.

I. quadriceps.—♀. Elongate, narrow, subcylindric; honey-yellow; head large, quadrate, or somewhat subglobose, deeply emarginate behind, entirely black, polished; antennæ short, thickened at tip, the joints short, the basal third fulvous, the rest black, with a broad yellow annulus about the middle; thorax long, narrowed anteriorly, the region about the scutellum blackish; metathorax long, feebly sculptured, with a long central area; wings short and narrow, hyaline, iridescent, areolet broad, 5-angular, nearly quadrate, nervures brown; legs short and stout, honey-yellow, the four posterior femora, except base, and their tibiæ entirely black; abdomen subcylindric, thickened towards the apex, first segment smooth above, gradually dilated to the tip; the fifth and following segments black. Length $3\frac{1}{2}$ lines.

♂. Colored like the ♀, but the antennæ are much longer, filiform, fulvous, dusky above and at tips beneath; only the tips of the middle femora and tibiæ are black, and the abdomen has the sixth and following segments black.

Hab.—Canada, Connecticut. One ♀, one ♂, specimens. This has much the appearance of an *Alomya*.

I. helvus.—♀. Ferruginous, very densely punctured, slightly pubescent; head broad, transversely quadrate, eyes small, mandibles brownish; antennæ short, with short, thick-set joints, apical joints blackish; mesothorax, scutellum and base of metathorax shining; scutellar region sometimes blackish; tegulæ yellowish; wings shorter than usual, subhyaline, tinged with pale fuscous, nervures and stigma brown, areolet broad, 5-angular; legs rather slender, entirely ferruginous; abdomen elongate, depressed, shining, slender at base, the first segment not suddenly dilated at tip, the upper surface of which is very finely aciculate. Length $3-3\frac{1}{2}$ lines.

Hab.—Connecticut, Pennsylvania, Illinois. Fourteen ♀ specimens.

I. helvolus.—♀. Elongate, narrow, ferruginous, somewhat shining, very delicately sculptured; eyes smaller than usual; antennæ moderate, dusky, with a narrow whitish annulus about the middle, basal joints ferruginous, short, not so thick set as in *helvus*; scutellum polished, the region on each side more or less blackish; metathorax with the elevated lines indistinctly defined; tegulæ pale; wings shorter than usual, subhyaline, nervures pale, areolet broad, 5-angular; legs stout, tips of posterior femora and of their tibiæ dusky, posterior coxæ with a short, blunt tubercle beneath near the tip; abdomen elongate, subcylindric, subconvex, first segment convex at tip, smooth and shining; the two or three apical segments blackish. Length $3-3\frac{1}{2}$ lines.

Hab.—Connecticut, Pennsylvania, Illinois. Four ♀ specimens. Closely allied to *vincibilis*, but has the joints of the antennæ shorter, the legs stouter and the posterior coxæ armed beneath; the abdomen is differently formed.

I. vincibilis.—♀. Small, ferruginous, head large subquadrate; antennæ rather long, filiform, dull ferruginous, the incisures of the joints dusky, a narrow yellowish annulus a little beyond the middle, joints three and four long, subequal, five—seven a little shorter; metathorax with an elongate central area; tegulæ whitish; wings shorter than usual, subhyaline, iridescent, nervures pale, areolet 5-angular; legs slender, entirely pale ferruginous, tips of tarsi dusky; abdomen elongate, slender at base, broadest a little before the apex; first segment minutely aciculate at tip; three apical segments black, shining, sometimes the fourth segment is more or less blackish. Length 3 lines.

Hab.—Illinois, (Dr. Lewis.) Two ♀ specimens.